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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------|------------------|
| 10/710,696 | 07/29/2004 | Kuo-Chung Yee | 13184-US-PA | 4695 |
| 31561 | 7590 | 09/25/2006 | EXAMINER | |
| JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN | | | MATTHEWS, COLLEEN ANN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2811 | |

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/710,696 | YEE ET AL. | |
| | Examiner | Art Unit | |
| | Colleen A. Matthews | 2811 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 1-4 and 6-21** are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Pub. No. 2006/0030074 to Mund et al (Mund).

3. **Regarding claims 1, 10 and 11**, Mund discloses a photoelectric device grinding process comprising the steps of: providing a wafer (Fig 9 element 312) having a plurality of chip units, where the surface of each chip unit has at least a photoelectric device (element 318), providing some glue (314) having a plurality of spacers (310) embedded therein; attaching a dielectric substrate (302) over the photoelectric device on the surface of the wafer through the glue, where the glue and the spacers are disposed between the dielectric substrate and the wafer such that the spacers maintain a constant gap (H') between the dielectric substrate and the wafer and grinding (paragraph 0111, lines 10) the surface of the dielectric substrate away from the wafer or the surface of the wafer away from the dielectric substrate.

4. **Regarding claims 2 and 12**, Mund discloses the photoelectric device grinding process where the photoelectric device comprises an image sensor (Figure 9 element 318, paragraph 0011, line 6).

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5. **Regarding claims 3 and 13**, Mund discloses the photoelectric device grinding process where the photoelectric device comprises a micro-mechanical structure (paragraph 0021 and 0022).

6. **Regarding claims 4 and 14**, Mund discloses the photoelectric device grinding process where the micro-mechanical structure (Fig 9, element 318) protrudes from the surface of the wafer (312) by a height smaller than the gap (H') between the dielectric substrate (302) and the wafer (312).

7. **Regarding claims 6 and 17**, Mund discloses the photoelectric device grinding process where the spacers are silicon oxide (paragraph 0025 lines 1-3).

8. **Regarding claims 7 and 19**, Mund discloses the photoelectric device grinding process where the step of grinding the dielectric substrate or the wafer comprises mechanical grinding (paragraph 0111, lines 10).

9. **Regarding claims 8 and 20**, Mund discloses the photoelectric device grinding process where the dielectric substrate comprises a glass substrate or silicon substrate (element 302, glass; paragraph 0111 line 1).

10. **Regarding claims 9 and 21**, Mund discloses the photoelectric device grinding process where the glue (Figure 9 element 314), each chip unit (312) and the dielectric substrate (302) together form at least a sealed chamber (316) such that the photoelectric device (318) is enclosed within the sealed chamber.

11. **Regarding claims 15 and 16**, Mund discloses the photoelectric device grinding process where attaching the dielectric substrate to the wafer comprises applying some

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glue (Figure 9 element 314), where the glue further comprises a plurality of spacers (310) embedded.

12. **Regarding claim 18**, Mund discloses the photoelectric device grinding process where the material constituting the glue is selected from the group of ultraviolet cured plastic and epoxy resin (epoxy; paragraph 0105 line 1).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pub. No. 2006/0030074 to Mund et al (Mund) in view of U.S. Pub. No. 2004/0232104 to Kinoshita et al. (Kinoshita).

15. **Regarding claim 5**, Mund discloses the photoelectric device grinding process of claim 1 as above. Mund fails to disclose the glue comprising ultraviolet cured plastic. Kinoshita teaches using an ultraviolet cured plastic as a glue (paragraph 0041 lines 7-8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Mund to have the glue comprising ultraviolet cured plastic as in Kinoshita in order to form the glue into a solid material within the device.

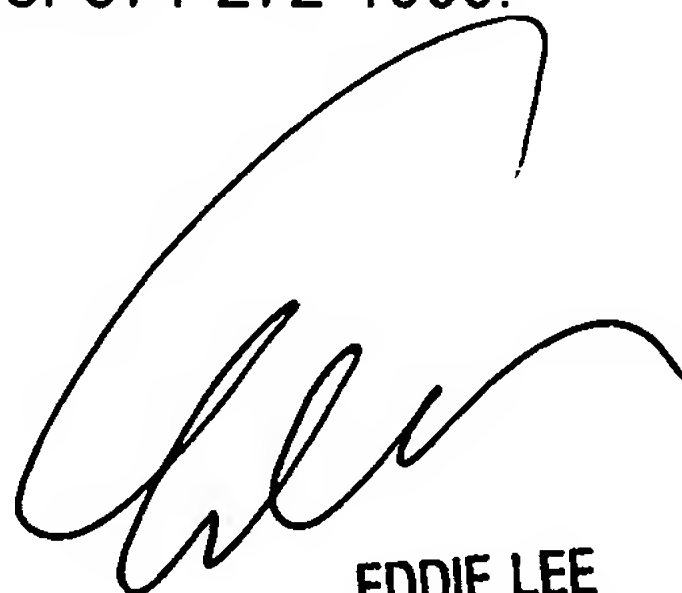
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colleen A. Matthews whose telephone number is 571-272-1667. The examiner can normally be reached on Monday - Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CAM
09/18/2006



EDDIE LEE
SUPERVISORY PATENT EXAMINER
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